

**REMARKS**

In view of the following remarks, the Examiner is requested to allow Claims 21-34 and 42-43, the only claims pending and under instant examination.

***Claim Rejections – 35 U.S.C. § 102***

Claims 21-31, 33-34, and 42-43 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Schmidt et al. (WO 99/02728).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 631, (Fed. Cir. 1987).

The standard for anticipation under section 102 is one of strict identity. An anticipation rejection requires a showing that each limitation of a claim be found in a single reference, *Atlas Powder Co. v. E.I. DuPont de Nemours & Co.*, 224 U.S.P.Q. 409, 411 (Fed. Cir. 1984). Further, an anticipatory reference must be enabling, see *Akzo N.V. v. United States Int'l Trade Comm'n* 808 F.2d 1471, 1479, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986), *cert denied*, 482 U.S. 909 (1987), so as to place one of ordinary skill in possession of the claimed invention. To anticipate a claim, a prior art reference must disclose every feature of the claimed invention, either explicitly or inherently. *Glaxo v. Novopharm, Ltd.* 334 U.S.P.Q.2d 1565 (Fed. Cir. 1995).

Claim 21, 42 and 43 and dependent claims 22-31 and 33-34 are directed to a method of determining a nucleic acid sequence, and require “cleaving said 3' cleavable tag from said extension product to produce a cleaved tag, not bound to said at least one complementary nucleotide, and an extension product that includes said at least one complementary nucleotide hybridized to said template nucleic acid sequence”. Thus, Claim 21, 42 and 43 require that the primer nucleic acid and the template nucleic acid remain hybridized when the tag is cleaved.

Schmidt does not disclose a method in which the complementary nucleic acid and the template nucleic acid remain hybridized when the tag is cleaved. Rather, Schmidt's method is one in which the complementary nucleic acid is separated from the template nucleic acid prior to cleavage. Since Schmidt's method is different to that being claimed, Schmidt cannot anticipate the claims and this rejection should be withdrawn.

In attempting to establish this rejection, the Examiner argues that Schmidt disclose a method in which the complementary nucleic acid and the template nucleic acid remain hybridized when the tag is cleaved on page 16, full second paragraph, i.e., in the following passage: “the extension of a sequencing primer by incubating a template with nucleotide triphosphates, mass-labeled deoxynucleotides and a DNA. Extension of the primer is blocked due to the presence of blocking groups on the mass labeled deoxynucleotide which prevents the 3’ OH of the deoxynucleotide reacting with the 5’ triphosphates of further nucleotides. The unique mass labels are attached to the deoxynucleotide by a cleavable linker group. Cleavage is carried out by laser light. The mass label is released into solution for analysis”.

However, paragraph 2, page 16 of Schmidt when in context does not disclose any method in which complementary nucleic acid and template nucleic acid remain hybridized when a tag is cleaved. The Applicants position is supported on page 16, third paragraph, of Schmidt, where Schmidt discusses that the method described in the paragraph cited by the Examiner, “one to generate a Sanger ladder of fragments . . . . One can analyse the resultant sequence ladder by capillary electrophoresis followed by direct analysis of mass labels by electrospray mass spectrometry (ESMS)”. Moreover, Schmidt’s Fig. 4a, which is used by Schmidt to illustrate the method described in the paragraph cited by the Examiner (see, e.g., page 16, line 27 and page 17, line 11) clearly shows that “capillary electrophoresis” (which involves denaturation) takes place before “photocleavage” of the label. Thus, the method described on page 16 of Schmidt’s disclosure, when read in context, is one in which the complementary nucleic acid is separated from the template nucleic acid prior to cleavage, rather than a method in which the complementary nucleic acid is hybridized to the template nucleic acid during cleavage, as required by the rejected claims.

Therefore, Schmidt cannot anticipate the claimed subject matter because it fails to teach every element of the rejected claims. Hence, the Applicants respectfully request that the rejection of claims 21-31, 33-34 and 42-43 under 35 U.S.C. § 102(b) be withdrawn.

### ***Claim Rejections – 35 U.S.C. § 103***

Claim 32 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Schmidt et al. (WO 99/02728) in view of Cheeseman et al. (U.S. Patent No. 5,302,509).

In order to meet its burden in establishing a rejection under 35 U.S.C. §103, the

Office must first demonstrate that a prior art reference, or references when combined, teach or suggest all claim elements. *See, e.g., KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1740 (2007); *Pharmastem Therapeutics v. Viacell et al.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); MPEP § 2143(A)(1). In addition to demonstrating that all the elements were known in the prior art, the Office must also articulate a reason for combining the elements. *See, e.g., KSR* at 1741; *Omegaflex, Inc. v. Parker-Hannifin Corp.*, 243 Fed. Appx. 592, 595-596 (Fed. Cir. 2007) (citing *KSR*). Further, the Supreme Court in *KSR* also stated that that “a court *must* ask whether the improvement is more than the predictable use of prior art elements according to their established functions.” *KSR* at 1740; emphasis added. As such, in addition to showing that all elements of a claim were known in the prior art and that one of skill had a reason to combine them, the Office must also provide evidence that the combination would be a predicted success.

The Examiner states that Schmidt et al. is deficient in that Schmidt et al. does not disclose that the cleavable tag is a fluorescent tag. Cheeseman is cited to meet Schmidt's deficiency.

The Applicants submit that Schmidt et al. is also deficient in that it fails to suggest all the elements of the Applicants claims because, as noted above, Schmidt does not disclose “cleaving said 3' cleavable tag from said extension product to produce a cleaved tag, not bound to said at least one complementary nucleotide, and an extension product that includes said at least one complementary nucleotide hybridized to said template nucleic acid sequence”, as required by the rejected claims.

Cheeseman was cited solely for its alleged disclosure of a fluorescent cleavable tag. Consequently, Cheeseman fails to remedy the deficiencies of Schmidt. Therefore, the cited combination of Schmidt and Cheeseman does not disclose or suggest all the elements of Claim 32, and the Applicants respectfully request withdrawal of this rejection.

**CONCLUSION**

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone James Keddie at (650) 327-3400.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078, order number 10010632-3.

Respectfully submitted,

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